



March 16, 2005

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Independent Spent Fuel Storage Installation; Docket No. 72-8
Report of Changes, Tests, and Experiments – 10 CFR 50.59 and 10 CFR 72.48

In accordance with 10 CFR 50.59(d)(2) and 10 CFR 72.48(d)(2), Calvert Cliffs Nuclear Power Plant, Inc. hereby submits a report containing brief descriptions of changes, tests, and experiments approved under the provisions of 10 CFR 50.59 and 10 CFR 72.48.

Attachment (1) of this report includes 50.59 and 72.48 evaluations recorded and approved between January 1, 2004 and December 31, 2004.

Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ken F. Robinson".

Ken F. Robinson
General Supervisor-Design Engineering

KFR/CAN/bjd

Attachment: (1) Calvert Cliffs Nuclear Power Plant Report of Changes, Tests, and Experiments
[10 CFR 50.59(d)(2) and 10 CFR 72.48(d)(2)]

cc: C. W. Fleming, Esquire
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NMSS01

ATTACHMENT (1)

**CALVERT CLIFFS NUCLEAR POWER PLANT
REPORT OF CHANGES, TESTS, AND EXPERIMENTS
[10 CFR 50.59(d)(2) and 10 CFR 72.48(d)(2)]**

Safety Evaluations approved by OSSRC, 1/1/2004 through 12/31/2004

Document Id SE00402	Doc Type 50.59	Rev Status 64	Revision 0000	Date Issued 11/25/2003
Subject	TI-124 MODIFICATION FOR UTILIZATION OF AVERAGE MAX-AUCTIONEERED TCOLD INDICATION			
Summary	<p>The purpose of this package is to 'implement a revised method of monitoring core inlet temperature for Technical Specification compliance. Currently, operations is required to maintain inlet cold leg indications from exceeding 548°F per Tech Spec LCO 3.4.1 (RCS cold leg temperature [Tc] < or equal to 548°F). As a result of this restriction, the reactor is "driven" based on bulk average inlet temperature significantly less than 548°F due to operation solely based upon the hottest RTD. In reality, there exists a spread in RTD indications. This activity proposes the usage of the average of the RPS cold leg indications versus the maximum of high-auctioneered RPS indications.</p> <p>An appropriate penalty has been included in the TM/LP setpoint calculation and LCO monitoring to account for the cold leg temperature indication spread. The spread will be periodically montitored to ensure it remains within safety analysis assumptions.</p>			

Document Id SE00488	Doc Type 50.59	Rev Status 64	Revision 0000	Date Issued 4/6/2004
Subject	ASSESS A CHANGE IN THE METHODOLOGY USED TO EVALUATE THE UNIT 1 TURBINE-GENERATOR MISSILE PROBABILITY RISK			
Summary	<p>No SSCs are adversely affected by this activity. This evaluation was perform to address a change in the method of evaluating turbine-generator missile probability risk for the new Unit 1 turbine monoblock low-pressure rotors. The new methodology is already reviewed and approved by the NRC, under NUREG 1048-Appendix U, and is described in the UFSAR. Therefore, the Unit 1 LP Rotor Replacement does not result in a departure from a method of evaluation described in the UFSAR used in establishing the design bases or in the safety analysis. NUREG 1048 Appendix U was reviewed to ensure that the application of the methodology for Calvert Cliffs' Unit 1 main turbine is used in accordance with the conditions and limitations specified in the approval. Although the new methodology will result in an increase in margin to the missile risk acceptance criteria (i.e. non-conservative), per the rule definition of departure, the "conservative or essentially the same" criterion is inoperative when using a new method approved by the NRC for the intended application, which is the case for this activity. Therefore, prior NRC approval of the proposed activity is not required.</p>			

Document Id SE00490	Doc Type 50.59	Rev Status 64	Revision 0000	Date Issued 1/14/2004
Subject	UPDATE UFSAR CH 14.22 WASTE GAS INCIDENT			
Summary	<p>The proposed activity updates the UFSAR Ch. 14.22 Waste Gas Incident safety analysis by utilizing previously approved ICRP 30 dose conversion factors, and source term input that bounds current operating conditions.</p>			

Document Id	Doc Type	Rev Status	Revision	Date Issued
SE00491	50.59	64	0000	01/29/2004
Subject	EVALUATION OF UNIT 2 SFP REACTIVITY AFFECTS RESULTING FROM TA 1-03-042 - SILICA REMOVAL SKID OPERATIONS			
Summary	<p>A filtration skid using reverse osmosis filtration technology will be installed on the 69'elevation of the Auxiliary Building south of the SFP. The skid will be used to filter silica from the SPF by recycling SFP water through flexible supply and return hoses. The skid will require electrical, demineralized water, and compressed air services. This evaluation addresses adverse affects identified in the 10 CFR 50.59 Screen associated with TA 1-03-042.</p> <p>This activity is for a one time performance of cleaning up silica from the Spent Fuel Pool (SFP). The maximum change in silica concentration that is allowed to be processed from Unit 1 and 2 Spent Fuel Pools shall not exceed 15 ppm.</p> <p>The purpose of this activity is to reduce silica levels in teh Spent Fuel Pool (SFP). The source of silica has been determined to be a chemical byproduct of the gradual deterioration of the boraflex poison used in the Unit 2 SFP racks. At high concentrations, silica is a chemical contaminant in the reactor coolant system (RCS). Under operating conditions high concentrations of silica combine with other chemical impurities in the RCS and result in plate-out of insulating compounds on the fuel clad causing reduced heat transfer.</p> <p>This activity is supported by CA06346, Rev. 0. The criticality code, KENO (previously approved by the NRC), was used to calculate the delta k effective between the current design basis Unit 2 fuel rack criticality case and a Unit 2 fuel rack boraflex reduction case. The resulting k-effective was determined to be significantly less than the two-sigma uncertainty associated with the KENO code. As a result, the criteria for determining "not more than a minimal increase" of NEI 96-07, Rev. 1, was met.</p>			

Document Id	Doc Type	Rev Status	Revision	Date Issued
SE00492	50.59	64	0000	4/23/2004
Subject	UNIT 1 CYCLE 17 RELOAD 50.59 FOR BATCH 1W FUEL ASSEMBLIES			
Summary	<p>SE00492 evaluated the operation of Unit 1 Cycle (U1C17) in plant modes 1 through 4 for the designed 24 month cycle length. The analyses accounted for the U1C17 fuel management and implementation of the ABB-TB Critical Heat Flux correlation. Note, there were no design changes that had not previously been implemented at Calvert Cliffs. No RPS setpoint changes were required. A COLR for U1C17 has been developed per the requirements of Technical Specification 5.6.5.</p> <p>The evaluation concluded that NRC approval was not required.</p>			

Document Id	Doc Type	Rev Status	Revision	Date Issued
SE00493	50.59	64	0000	2/23/2004
Subject	REVISE SE00491 TO ALLOW A TEMPORARY RELAXATION OF SFP B10 CONC FOR SILICA REMOVAL			
Summary	<p>A filtration skid using reverse osmosis filtration technology will be installed on the 69' elevation of the Auxiliary Building south of the SFP. The skid will be used to filter silica from the SPF by recycling SFP water through flexible supply and return hoses. The skid will require electrical, demineralized water, and compressed air services. The evaluation addresses adverse affects identified in the 10 CFR 50.59 Screen associated with TA 1-03-042.</p> <p>This activity is for a one time performance of cleaning up silica from the Spent Fuel Pool. The maximum change in silica concentration that is allowed to be processed from the Unit 1 and 2 Spent Fuel Pools shall not exceed 15 ppm.</p> <p>The purpose of this activity is to reduce silica levels in the Spent Fuel Pool (SFP). The source of silica has been determined to be a chemical byproduct fo the gradual deterioration of the boraflex poison used in the Unit 2 SFP racks. At high concentrations, silica is a chemical contaminant in the rector coolant system (RCS). Under operating conditions high concentrations of silica combine with other chemical impurities in the RCS and result in plate-out of insulating compounds on the fuel clad causing reduced heat transfer.</p> <p>This activity is supported by CA06346, Rev. 0. The criticality code, KENO (previously approved by the NRC), was used to calculate the delta k-effective between the current design basis Unit 2 fuel rack criticality case and a Unit 2 fuel rack boraflex reduction case. The resulting k-effective was determined to be significantly less than the two-sigma uncertainty associated with the KENO code. As a result, the criteria for determining "not more than a minimal increase" of NEI 96-07, Rev. 1, was met.</p>			

Document Id	Doc Type	Rev Status	Revision	Date Issued
SE00160	72.48	64	0000	9/26/2002
Subject	72.48 EVALUATION FOR THE ISFSI 24P TRANSFER CASK AND HSM DOSE RATE CALCULATIONS WITH MCNP			
Summary	<p>CCNPP has performed new calculations that will supersede the original design basis dose calculations and models for the Independent Spent Fuel Storage Instillation (ISFSI) 24P Dry Shielded Canister (DSC), Transfer Cask (AC) and Horizontal Storage Module (HSM). These calculations use improved methodology (3D vs. 1D etc.) and have been performed with the Los Alamos National Laboratory Monte Carlo N-Particle Transport Code System MCNP4C. Several NRC SER's have been issued for both shielding and criticality licensing analysis that utilize MCNP. The calculations include measured benchmarks, are conservative, and did not 'Result in more than a minimal increase in the consequences of an accident previously evaluated in the UFSAR.'</p>			